

AMENDMENTS TO THE CLAIMS:

The following listing of claims will replace all prior versions and listings of claims in this application:

1. (Currently Amended) A system for dynamic scheduling of broadcast digital data content to client devices of users, said digital data content available from one or more sources, and said scheduling based on type of data and activity of said system, said system comprising:

a digital radio broadcast system comprising one or more gateways, said one or more gateways receiving one or more selections of digital data content and processing said digital data content for digital radio broadcast transmission, said one or more gateways comprising:

a scheduler for receiving said data content, said scheduler separating said received data content into a first data type and a second data type;

said scheduler scheduling data content of said first data type to be broadcast via digital radio broadcast transmission to said client devices during selective first broadcast periods;

said scheduler scheduling data content of said second data type to be broadcast via digital radio broadcast transmission to said client devices during selective second broadcast periods;

said data content scheduled for use during a scheduled time period after a recombination of said broadcasted data content of said first data type and of said second data type at said client devices;

~~said gateway processing information for digital radio broadcast transmission to the client devices for enabling and disabling a deactivate flag for the first data type such that the first data type will be stored at said client devices, but not activated for immediate use until after said recombination,~~

said gateway appending a deactivate flag to data content of said first data type, and processing said data content of the first data type for digital radio broadcast transmission to the client devices, wherein said deactivate flag instructs said client devices to store without rendering said data content of the first data type;

said gateway appending a deactivate flag to data content of said second data type, and processing said data content of the second data type for digital radio broadcast transmission to the client devices, wherein said deactivate flag instructs said client devices to store without rendering said data content of the second data type;

said gateway processing a disable deactivate flag for digital radio broadcast transmission to the client devices, wherein said disable deactivate flag instructs said client devices to activate the data content of the first data type and the data content of the second data type and render the data content of the first data type and the second data type in synchronization with real-time rendering of a digital radio broadcast transmission;

said gateway processing said data content of the first data type and said data content of the second data type for digital radio broadcast transmission to client devices without receiving any communication from a user of a client device requesting said data content.

2. (Original) A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein said first data-type requires a high bandwidth and said second data type requires a relatively lower bandwidth.

3. (Canceled)

4. (Currently Amended) A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1 3, wherein said scheduler provides a time-to-live value that specifies a time interval that said client devices are to wait for the reception of said disable deactivate flag, and upon expiration of said time interval, said client devices deleting at least a part of said recombined data.

5. (Original) A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein said first data-type comprises any of, or a combination of: images, fixed display data, graphics, song compilations, digital data purchases, maps, e-books, or newspapers.

6. (Previously Presented) A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein said second data type comprises any of, or a

combination of: text or audio to accompany said images, fixed display data, graphics, new songs, traffic conditions, and data to complete first data type downloads.

7. (Original) A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein said first broadcast period comprises low broadcast and/or client usage periods.

8. (Original) A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein said second broadcast period comprises high broadcast and/or client usage periods.

9. (Original) A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein said first broadcast period comprises a period of relative low activity of said broadcasts or client usage and said second broadcast period comprises relatively high activity of said broadcasts or client usage.

10. (Original) A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein first data-type is broadcast before said second data type.

11. (Canceled).

12. (Canceled).

13. (Canceled).

14. (Previously Presented) A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein said client devices comprise a digital consumer electronics radio.

15. (Previously Presented) A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein said client devices comprise any of a:

handheld computer device, wireless telephone, radio telephone, portable computer, or consumer electronics.

16. (Original) A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein said data content sources include any of, or a combination of: electronic advertisers, the Internet, the world wide web, ISPs, or connected digital libraries.

17. (Currently Amended) A method for dynamic scheduling of broadcast digital data content to client devices of users, said method comprising:

receiving data content from content providers with a processing system;

separating said data content into a first data type and a second data type with the processing system;

scheduling data content of said first data type to be broadcast via digital radio broadcast transmission during a first time period with the processing system;

appending a deactivate flag to said data content of the first data type with the processing system, wherein said deactivate flag instructs said client devices to store without rendering said content of the first data type;

scheduling data content of said second data type to be broadcast via digital radio broadcast transmission during a second time period;

appending a deactivate flag to said data content of the second data type, wherein said deactivate flag instructs said client devices to store without rendering said content of the second data type;

broadcasting via digital radio broadcast transmission to one or more client devices said data content of the first and second data types during their respective time periods for recombination at said client devices, wherein said data content is broadcast to said one or more client devices without receiving a communication from a user of a client device requesting said data content; and

broadcasting via digital radio broadcast transmission a disable deactivate flag, wherein said disable deactivate flag instructs said client devices to activate the data content of the first data type and the data content of the second data type and render the data content of

the first data type and the data content of the second data type in synchronization with real-time rendering of a digital radio broadcast transmission.

~~sending an activation message to said one or more client devices to activate use of recombined first and second data types during a scheduled time period,~~

~~said gateway processing said data content for digital radio broadcast transmission to client devices without any communication from a user requesting said data content.~~

18. (Previously Presented) A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein said method further comprises the step of sending a cancellation message to said one or more client devices to delete at least a part of said recombined data.

19. (Original) A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein said first data type requires a high bandwidth and said second data type requires a relatively lower bandwidth.

20. (Original) A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein said first data type comprises any of, or a combination of: images, fixed display data, graphics, song compilations, digital data purchases, maps, e-books, or newspapers.

21. (Previously Presented) A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 20, wherein said second data type comprises any of, or a combination of: text or audio to accompany said images, fixed display data, graphics, new songs, traffic conditions, and data to complete first data type downloads.

22. (Original) A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein said first broadcast period comprises low broadcast and/or client usage periods.

23. (Original) A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein said second broadcast period comprises high broadcast and/or client usage periods.
24. (Original) A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein said first broadcast period comprises a period of relative low activity of said broadcasts or client usage and said second broadcast period comprises relatively high activity of said broadcasts or client usage.
25. (Original) A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein first data type is broadcast before said second data type.
26. (Canceled).
27. (Canceled).
28. (Canceled).
29. (Previously Presented) A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein said one or more client devices comprise a digital consumer electronics radio.
30. (Previously Presented) A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein said one or more client devices comprise any of a: handheld computer device, wireless telephone, radio telephone, portable computer, or home consumer electronics.
31. (Original) A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein said data content sources include any of, or a combination of: advertisers, the Internet, the world wide web, ISPs, or connected digital libraries.

32. (Currently Amended) A method for dynamic processing of broadcast digital data content, said method comprising:

receiving first data content with a deactivate flag appended thereto at a client device of a user via digital radio broadcast transmission;

in response to said deactivate flag, storing in local storage without rendering said first data content;

receiving second data content with a deactivate flag appended thereto at the client device of the user via digital radio broadcast transmission, said second data content comprising any of, or a combination of: missing data from said first data content, new data associated with said first data content, new data unrelated to said first data content, and changes in data previously received;

in response to said deactivate flag, storing in local storage without rendering said second data content;

~~combining associated first and second data content; and~~

receiving via digital radio broadcast transmission a disable deactivate flag and in response thereto, activating any of said received first data content; and said received second data content or said combined associated data content during a specific scheduled time period and rendering said data content of the first data type and said data content of the second data type in synchronization with the real-time rendering of a digital radio broadcast transmission,

said first data content and second data content being received at said client device without any communication from the user requesting said first data content or said second data content.

33. (Previously Presented) A method for dynamic processing of broadcast digital data content, as per claim 32, wherein said first data content requires a high bandwidth and said second data content requires a relatively lower bandwidth.

34. (Previously Presented) A method for dynamic processing of broadcast digital data content, as per claim 32, wherein said first data content comprises any of, or a combination of: images, fixed display data, graphics, song compilations, digital data purchases, or maps.

35. (Previously Presented) A method for dynamic processing of broadcast digital data content, as per claim 32, wherein said second data content comprises any of, or a combination of: text or audio to accompany said images, fixed display data, graphics, new songs, traffic conditions, and data to complete said first data content.

36. (Previously Presented) A method for dynamic processing of broadcast digital data content, as per claim 32, wherein said first data content is received during low broadcast and/or client usage periods.

37. (Previously Presented) A method for dynamic processing of broadcast digital data content, as per claim 32, wherein said second data content is received during high broadcast and/or client usage periods.

38. (Previously Presented) A method for dynamic processing of broadcast digital data content, as per claim 32, wherein said first data content is received during a period of relative low activity of said broadcasts or client usage and said second data content is received during relatively high activity of said broadcasts or client usage.

39. (Previously Presented) A method for dynamic processing of broadcast digital data content, as per claim 32, wherein first data content is received before said second data content.

40. (Canceled).

41. (Canceled).

42. (Canceled).

43. (Previously Presented) A method for dynamic processing of broadcast digital data content, as per claim 32, wherein said client is a digital consumer electronics radio.

44. (Previously Presented) A method for dynamic processing of broadcast digital data content, as per claim 32, wherein said client is any of a: handheld computer device, wireless telephone, radio telephone, portable computer, or consumer electronics.

45. (Previously Presented) A method for dynamic processing of broadcast digital data content, as per claim 32, wherein said data content originates from any of, or a combination of: advertisers, the Internet, the world wide web, ISPs, or connected digital libraries.

46. (Currently Amended) A method for dynamic scheduling of broadcast digital data content to client devices of users, said method comprising:

receiving data content from content providers with a processing system;

separating said data content into a first data type and a second data type with the processing system;

scheduling data content of said first data type to be broadcast via digital radio broadcast transmission during a first time period with the processing system;

appending a deactivate flag to said data content of the first data type with the processing system, wherein said deactivate flag instructs said client devices to store without rendering said data content of the first data type;

scheduling data content of said second data type to be broadcast via digital radio broadcast transmission during a second time period;

appending a deactivate flag to said data content of the second data type, wherein said deactivate flag instructs said client devices to store without rendering said data content of the second data type;

broadcasting via digital radio broadcast transmission to one or more client devices said data content of the first and second data types during their respective time periods for recombination at said one or more client devices; and

~~sending~~ broadcasting via digital radio broadcast transmission an activation message to said one or more client devices to activate ~~use of said data content~~ the data content of the first data type and the data content of the second data type in synchronization with real-time rendering of a digital radio broadcast transmission during a scheduled time period,

wherein all communications processed at said one or more client devices relating to said data content are push-type communications received by said one or more client devices via digital radio broadcast transmission.

47. (Currently Amended) A system for dynamic processing of broadcast digital data content, comprising:

a processing unit; and

a memory,

wherein the memory comprises processing instructions that cause the processing unit to execute steps of:

receiving data content from content providers;

separating said data content into a first data type and a second data type;

scheduling data content of said first data type to be broadcast via digital radio broadcast transmission during a first time period;

appending a deactivate flag to said data content of the first data type, wherein said deactivate flag instructs said client devices to store without rendering said data content of the first data type;

scheduling data content of said second data type to be broadcast via digital radio broadcast transmission during a second time period;

appending a deactivate flag to said data content of the second data type, wherein said deactivate flag instructs said client devices to store without rendering said data content of the second data type;

communicating said data content of the first and second data types to a digital radio broadcast system for digital radio broadcast to one or more client devices of users during the respective time periods for recombination of said first and second data types at said one or more client devices; and

communicating information to the digital radio broadcast system to cause the digital radio broadcast system to send an activation message to said one or more client devices to activate ~~use of recombined first and second data types~~ the data content of the first data type and data content of the second data type and render the data content of the first data type and the data content of the second data type in synchronization with real-time rendering of a digital radio broadcast transmission during a scheduled time period,

48. (Currently Amended) A system for dynamic processing of broadcast digital data content, comprising:

a processing unit; and

a memory,

wherein the memory comprises processing instructions that cause the processing unit to execute steps of:

receiving first data content with a deactivate flag appended thereto at a client device of a user via digital radio broadcast transmission;

in response to said deactivate flag, storing in local storage without rendering said first data content;

receiving second data content with a deactivate flag appended thereto, said second data content comprising any of, or a combination of: missing data from said first data content, new data associated with said first data content, new data unrelated to said first data content, and changes in data previously received;

in response to said deactivate flag, storing in local storage without rendering said second data content;

receiving via digital radio broadcast transmission a disable deactivate flag, and in response thereto:

~~combining associated first and second data content; and~~

activating ~~any of~~ said received first data content; and said received second data content and rendering said received first and second data content in synchronization with real-time rendering of a digital radio broadcast transmission ~~or said combined associated data content~~ during a specific scheduled time period,

said first data content and second data content being received at said client device without any communication from the user requesting said first data content or said second data content.

49. (Canceled).

50. (Currently Amended) A computer readable storage medium having embodied therein computer instructions for dynamic processing of broadcast digital data content, said instructions for causing a processing unit to execute steps of:

receiving first data content with a deactivate flag appended thereto at a client device of a user via digital radio broadcast transmission;

in response to said deactivate flag, storing in local storage without rendering said first data content;

receiving second data content with a deactivate flag appended thereto at the client device of the user via digital radio broadcast transmission, said second data content comprising any of, or a combination of: missing data from said first data content, new data associated with said first data content, new data unrelated to said first data content, changes in data previously received;

in response to said deactivate flag, storing in local storage without rendering said second data content;

receiving via digital radio broadcast transmission a disable deactivate flag, and in response thereto:

~~combining associated first and second data content; and~~

activating ~~any of~~ said received first data content, and said received second data content and rendering said received first and second data content in synchronization with real-time rendering of a digital radio broadcast transmission ~~or said combined associated data content~~ during a specific scheduled time period,

said first data content and second data content being received at said client device without any communication from a user requesting said first data content or second data content.

51. (Previously Presented) The system of claim 1, wherein the second data type comprises traffic update information.

52. (Previously Presented) The method of claim 17, wherein the second data type comprises traffic update information.

53. (Previously Presented) The method of claim 32, wherein the second data content comprises traffic update information.

54. (Previously Presented) The method of claim 46, wherein the second data type comprises traffic update information.

55. (Previously Presented) The system of claim 47, wherein the second data type comprises traffic update information.

56. (Previously Presented) The system of claim 48, wherein the second data content comprises traffic update information.

57. (Currently Amended) The computer readable storage medium of claim 49~~67~~, wherein the second data type comprises traffic update information.

58. (Currently Amended) The computer readable storage medium of claim 50, wherein the second data content comprises traffic update information.

59. (Previously Presented) The system of claim 1, wherein the gateway processes identifier information of a particular client device for digital radio broadcast transmission for targeting content to the particular client device.

60. (Previously Presented) The method of claim 17, comprising processing identifier information of a particular client device for digital radio broadcast transmission for targeting content to the particular client device.

61. (Previously Presented) The method of claim 32, comprising receiving identifier information of a particular client device via digital radio broadcast transmission along with content targeted to the particular client device.

62. (Previously Presented) The method of claim 46, comprising processing identifier information of a particular client device for digital radio broadcast transmission for targeting content to the particular client device.

63. (Previously Presented) The system of claim 47, wherein the processing unit processes identifier information of a particular client device for digital radio broadcast transmission for targeting content to the particular client device.

64. (Previously Presented) The system of claim 48, wherein the processing unit receives identifier information of a particular client device via digital radio broadcast transmission along with content targeted to the particular client device.

65. (Currently Amended) The computer readable storage medium of claim 49⁶⁷, comprising computer instructions for causing the processing unit to process identifier information of a particular client device for digital radio broadcast transmission for targeting content to the particular client device.

66. (Currently Amended) The computer readable storage medium of claim 50, comprising computer instructions for causing the processing unit to receive identifier information of a particular client device via digital radio broadcast transmission along with content targeted to the particular client device.

67. (New) A system for dynamic scheduling of broadcast digital data content to client devices of users, said digital data content available from one or more sources, and said scheduling based on type of data and activity of said system, said system comprising:

a digital radio broadcast system comprising one or more gateways, said one or more gateways receiving one or more selections of digital data content and processing said digital data content for digital radio broadcast transmission, said one or more gateways comprising:

a scheduler for receiving said data content, said scheduler separating said received data content into a first data type and a second data type;

said scheduler scheduling data content of said first data type to be broadcast via digital radio broadcast transmission to said client devices during selective first broadcast periods;

said scheduler scheduling data content of said second data type to be broadcast via digital radio broadcast transmission to said client devices during selective second broadcast periods;

said gateway appending a deactivate flag to data content of said first data type, and processing said data content of the first data type for digital radio broadcast transmission to the client devices, wherein said deactivate flag instructs said client devices to store without rendering said data content of the first data type;

said gateway processing said data content of the second data type for digital radio broadcast transmission to the client devices and for rendering the data content of the second data type in real-time at the client devices;

said gateway processing a disable deactivate flag for digital radio broadcast transmission to the client devices, wherein said disable deactivate flag instructs said client devices to activate the data content of the first data type and render the data content of the first data type in synchronization with real-time rendering of the data content of the second data type;

said gateway processing said data content of the first data type and said data content of the second data type for digital radio broadcast transmission to client devices without receiving any communication from a user of a client device requesting said data content.